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REMARKS

Claims 1-118 remain pending in this application for which applicants seek reconsideration. Claims 7-10 and 17-118 have been withdrawn as non-elected. A better descriptive title has been given.

Claims 1-6 and 11-16 were rejected under 35 U.S.C. § 103(a) as unpatentable over Barkhordarian (USP 6,144,726). The examiner essentially asserts that this reference teaches all of the claimed features, including stripped gate electrode, and that the claimed configurations are all a matter of design choice, particularly because the specification does not show the criticality or unexpected results, relying on *In re Woodruff*. Applicants traverse this rejection because the applied reference does not teach the claimed configurations.

First, the examiner has misapplied *In re Woodruff*. *In re Woodruff* and its progeny stand for the proposition that a claim can still overcome prior art that teaches the claimed ranges, if the particular range claimed produces a new and unexpected result. Indeed, in *In re Woodruff*, the prior art taught carbon monoxide concentrations of "about 1-5%" while the claimed invention was limited to "more than 5%." The court held that "about 1-5%" included concentrations slightly above 5%, which overlaps the claimed range.

Second, with respect to the elected independent claims, *In re Woodruff* rationale would be applicable only to claim 1. Moreover, for *In re Woodruff* to apply here, the applied reference must have taught the overlapping range of 0.01 to 0.2. The applied reference does not teach any range. Any range derived from the figures, namely Fig. 2, will be substantially higher than 0.2. Accordingly, *In re Woodruff* is inapplicable.

Moreover, applicants submit that the examiner's rationale for establishing prima facie obviousness via a design choice argument is improper because the examiner is essentially shifting the burden of proving patentability to applicants. The PTO always has the burden of proving prima facie obviousness, not the other way around. Indeed, to reject a claim under § 103, the seminal Supreme Court case, *Graham v. John Deere*, requires the examiner to first establish prima facie obviousness. See MPEP § 2142, § 2143. To do this, the PTO must identify some teaching or suggestion of the desirability of doing what the inventors here have done. To

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establish that the claimed invention is directed to an obvious subject matter, either the applied reference must expressly or implicitly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why an ordinary artisan would have found the claimed invention to have been obvious in light of the teachings of the applied reference(s). The suggestion or the examiner's reasoning, however, must be objective, supported by prior art.

Prima facie obviousness is determined from an objective teaching standard, not based on whether applicants show the unexpected results. MPEP § 2141.01 (6th Edition) itself specifically cites *Stratoflex Inc. v. Aeroquip Corp.*, 218 USPQ 871, 880 (Fed. Cir. 1983) for the proposition that lacking new and unexpected results or disclosure of criticality cannot be negatively inferred by the PTO in establishing prima facie case obviousness:

A requirement for synergism or a synergistic effect is nowhere found in the statute, 35 U.S.C. When present, for example in a chemical case, synergism may point toward nonobviousness, but its absence has no place in evaluating the evidence on obviousness.

Indeed, only after the examiner first establishes prima facie obviousness from objective teachings of prior art can the unexpected result/criticality argument come into play. Most importantly, this criticality or unexpected result argument is a secondary consideration that applicants can introduce to enhance the position of nonobviousness. That is, this argument is one tool that applicants can use to rebut prima facie obviousness after the PTO first establishes it.

Here, the examiner, without identifying any teaching or suggestion as to why the applied reference would be motivated to provide the claimed configurations, rejected the claims as being obvious, relegating to a design choice argument. The examiner points to no objective teaching why it would have been obvious for the applied reference to include the claimed configuration. The examiner's design choice argument can only be viewed as an unsupported conclusion or conjecture. And without first establishing a prima facie case of obviousness, the examiner improperly imposes the burden of proving nonobviousness to applicants. It is the PTO's obligation to prove obviousness, not applicants to prove nonobviousness.

Independent claim 1 calls for a ratio between the total surface area of the surface regions and the surface area of the well region including the source region to be 0.01 to 0.2. That is,

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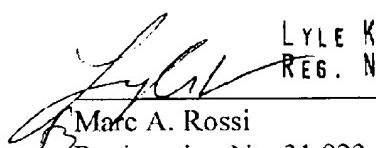
referring to Fig. 1, the total surface area of 14 (14a, 14b, 14c, 14d) is significantly smaller than the total surface area of the well region 13. Independent claim 2 calls for surface regions to be striped (14b, 14c, 14d). Independent claim 11 calls for the gate electrode 18 to be striped. See Fig 4. The applied reference simply does not teach these configurations.

Fig. 3 of the applied reference is telling of what the applied reference teaches. Fig. 3, which is the top view of Fig. 2, clearly reveals that the p-type base cells 30, 31, 32, 33 are hexagonally shaped, surrounded by an n layer 21. The surface of the n layer 21, which surrounds these hexagonally shaped well regions, takes up a significant surface area and is web shaped rather than being striped. Regarding the gate electrode, the applied reference clearly states that its gate electrode 41 is lithographically patterned and etched to open polygonal windows to form a web-shaped pattern. See column 3, lines 19-27 of the applied reference. That is, the gate electrode 41 is shaped similar to the web patterned surface of the n layer 21.

Applicants submit that claims 1-33, 114, and 115 patentably distinguish over the applied references and thus urge the examiner to issue an early Notice of Allowance. Should the examiner have any issues concerning this reply or any other outstanding issues remaining in this application, applicants urge the examiner to contact the undersigned to expedite prosecution.

Respectfully submitted,

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